

6,704/1642



ATTORNEY DOCKET NO. 13172.0012U1  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re application of

Dean *et al.*

Serial No.: 09/977,868

Confirmation No.: 3745

Filed: October 15, 2001

For: "NUCLEIC ACID AMPLIFICATION"

Group Art Unit: 1642

Examiner: Unassigned

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

NEEDLE & ROSENBERG, P.C.  
Suite 1200, The Candler Building  
127 Peachtree Street, N.E.  
Atlanta, Georgia 30303-1811

March 22, 2002

Sir:

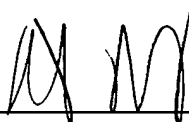
Pursuant to the requirements of 37 C.F.R. § 1.56, submitted herewith on the accompanying form PTO 1449 is a listing of documents known to the applicants and/or their attorneys. Copies of these documents are enclosed.

Consideration of the cited documents and making the same of record in the prosecution of the above-noted application are respectfully requested.

Applicant believes that this Information Disclosure Statement is being filed in accordance with 37 C.F.R. § 1.97(b)(3), i.e., before the mailing date of the first Office action on the merits. Therefore, no fee is believed to be due. However, if a fee is required, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.

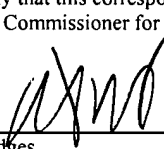


Robert A. Hodges  
Registration No. 41,074

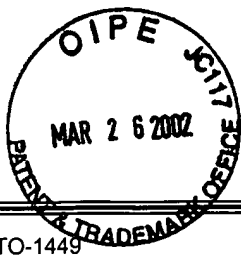
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Form PTO-1449 U.S. DEPARTMENT OF COMMERCE (Rev. 7-80) PATENT AND TRADEMARK OFFICE  LIST OF INFORMATION CITED BY APPLICANT (Use several sheets if necessary)	ATTORNEY DOCKET NO.: 13172.0012U1	SERIAL NO. 09/977,868 CONFIRMATION NO. 3745
	APPLICANT: Dean et al.	
	FILING DATE: October 15, 2001	GROUP: 1642

U.S. PATENT DOCUMENTS							
EXAMINER INITIALS		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A1	6,297,006	10/02/01	Drmanac et al.			
	A2	6,294,664	09/25/01	Ravikumar et al.			
	A3	6,291,669	09/18/01	Kwiatkowski et al.			
	A4	6,291,193	09/11/01	Kambara et al.			
	A5	6,288,220	09/11/01	Kambara et al.			
	A6	6,287,776	09/11/01	Hefti			
	A7	6,287,768	09/11/01	Chenchik et al.			
	A8	6,214,587	04/10/01	Dattagupta et al.			
	A9	6,124,120	09/26/00	Lizardi			
	A10	5,719,262	02/03/98	Buchardt et al.			
	A11	5,714,331	02/17/98	Buchardt et al.			
	A12	5,563,037	10/08/96	Sutherland et al.			
	A13	5,539,082	07/23/96	Nielsen et al.			
	A14	5,198,543	03/30/93	Blanco et al.			
	A15	5,043,272	08/27/91	Hartley			
	A16	5,001,050	03/19/91	Blanco et al.			
	A17	3,687,808	08/29/72	Merigan et al.			

FOREIGN PATENT DOCUMENTS							
	A18	EP 0 070 685 B1	07/14/82	EPO			
	A19	WO 97/17471	05/15/97	PCT			
	A20	WO 97/17076	05/15/97	PCT			

OTHER INFORMATION (Including Author, Title, Date, Pertinent Pages, Etc.)							
	A21	Aliotta et al., Thermostable <i>Bst</i> DNA polymerase I lacks a 3'→ 5' proofreading exonuclease activity. <i>Genet. Anal. (Netherlands)</i> 12:185-195 (1996)					
	A22	Beaucage et al., Deoxynucleoside Phosphoranimides-- A New Class of Key Intermediates For Deoxypolynucleotide Synthesis. <i>Tetrahedron Lett.</i> 22:1859-1862 (1981)					
	A23	Birkenmeyer et al., DNA Probe Amplification Methods. <i>J. Virol. Meth.</i> 35:117-126 (1991)					
	A24	Blanco et al., Highly Efficient DNA Synthesis by the Phage $\phi$ 29 DNA Polymerase. <i>J. Biol. Chem.</i> 264:8935-8940 (1989)					



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APR 01 2002

ATTORNEY DOCKET NO. 13172.0012U1

SERIAL NO. 09/977,868

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TECH CENTER 1600/2900

A25	Boehmer et al., Herpes Simplex Virus Type 1 ICP8: Helix-Destabilizing Properties. <i>J. Virol.</i> 67(2):711-715 (1993)
A26	Buchanan et al., Long DOP-PCR of Rare Archival Anthropological Samples, <i>Hum. Biol.</i> 72:911-925 (2000)
A27	Chatterjee et al., Cloning and Overexpression of the Gene Encoding Bacteriophage T5 DNA Polymerase. <i>Gene</i> 97:13-19 (1991)
A28	Cheung et al., Whole genome amplification using a degenerate oligonucleotide primer allows hundreds of genotypes to be performed on less than one nanogram of genomic DNA, <i>Proc Natl Acad Sci USA</i> 93:14676-14679 (1996)
A29	Crooke et al., Antisense Research and Applications. <i>CRC Press</i> 16:290-301 (1993)
A30	Eckert et al., DNA Polymerase Fidelity and the Polymerase Chain Reaction, <i>PCR Methods and Applications</i> 1:17-24 (1991)
A31	Englisch et al., Chemically Modified Oligonucleotides as Probes and Inhibitors. <i>Angewandte Chemie</i> , International Edition in English 30(6):613-629 (1991)
A32	Esteban et al., Fidelity of $\phi$ 29 DNA Polymerase. Comparison between Protein-Primed Initiation and DNA Polymerization, <i>J. Biol. Chem.</i> 268:2719-2726 (1993)
A33	Faruqi et al., High-Throughput Genotyping of Single Nucleotide Polymorphisms with Rolling Circle Amplification, <i>BMC Genomics</i> 2:4 (2001)
A34	Gillespie et al., HLA class II typing of whole genome amplified mouth swab DNA, <i>Tissue Antigens</i> 56:530-538 (2000)
A35	Guillier-Gencik et al., Generation of whole-chromosome painting probes specific to each chicken macrochromosome, <i>Cytogenet Cell Genet.</i> 87:282-285 (1999)
A36	Guo et al., Direct Fluorescence Analysis of Genetic Polymorphisms by Hybridization with Oligonucleotide Arrays on Glass Supports, <i>Nucl. Acids Res.</i> 22(24):5456-5465 (1994)
A37	Hall et al., Mixed Anhydrides as Intermediates in the Synthesis of Dinucleoside Phosphates. <i>J. Chem. Soc.</i> 3291-3296 (1957)
A38	Harper et al., Recent Advances and Future Developments in PGD, <i>Prenat. Diagn.</i> 19:1193-1199 (1999)
A39	Henegariu et al., Custom fluorescent-nucleotide synthesis as an alternative method for nucleic acid labeling. <i>Nature Biotechnology</i> 18:345-348 (2000)
A40	Hoy et al., Bromodeoxyuridine/DNA Analysis of Replication in CHO Cells after Exposure to UV Light, <i>Mutat. Res.</i> 290:217-230 (1993)
A41	Itakura et al., Synthesis and Use of Synthetic Oligonucleotides. <i>Ann. Rev. Biochem.</i> 53:323-356 (1984)
A42	Iyer et al., 3H-1, 2-Benzodithiole-3-one 1, 1-Dioxide as an Improved Sulfurizing Reagent in the Solid-Phase Synthesis of Oligodeoxyribonucleoside Phosphorothioates. <i>J. Am. Chem. Soc.</i> 112:1253-1254 (1990)
A43	Jacobsen et al., The N-Terminal Amino-Acid Sequences of DNA Polymerase I from <i>Escherichia coli</i> and of the Large and the Small Fragments Obtained by a Limited Proteolysis. <i>Eur. J. Biochem.</i> 45:623-627 (1974)
A44	Jung et al., Bacteriophage PRD1 DNA polymerases: Evolution of DNA polymerases. <i>Proc. Natl. Acad. Sci. USA</i> 84:8287-8291 (1987)
A45	Kaboord et al., Accessory proteins function as matchmakers in the assembly of the T4 DNA polymerase holoenzyme. <i>Curr. Biol.</i> 5(2):149-157 (1995)
A46	Kerkhof, A Comparison of Substrates for Quantifying the Signal from a Nonradiolabeled DNA Probe, <i>Anal. Biochem.</i> 205:359-364 (1992)
A47	Khrapko et al., Hybridization of DNA with Oligonucleotides Immobilized in Gel: A Convenient Method for Detecting Single Base Substitutions. <i>Mol Biol (Mosk) (USSR)</i> 581-591 (1991)
A48	Kim et al., Whole genome amplification and molecular genetic analysis of DNA from paraffin-embedded prostate adenocarcinoma tumor tissue, <i>J. Urol.</i> 162:1512-1518 (1999)
A49	Klein et al., Comparative genomic hybridization, loss of heterozygosity, and DNA sequence analysis of single cells, <i>Proc Natl Acad Sci USA</i> 96:4494-4499 (1999)



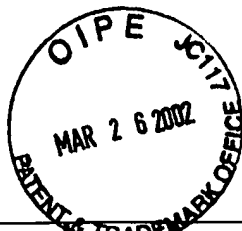
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APR 01 2002

ATTORNEY DOCKET NO. 13172.0012U1  
SERIAL NO. 09/977,868  
Page 3 of 4

## TECH CENTER 1600/2900

A50	Kong et al., Characterization of a DNA Polymerase from the Hyperthermophile Archaea <i>Thermococcus litoralis</i> . <i>J. Biol. Chem.</i> 268(3):1965-1975 (1993)
A51	Kukasjaarvi et al., Optimizing DOP-PCR for Universal Amplification of Small DNA Samples in Comparative Genomic Hybridization. <i>Genes, Chromosomes and Cancer</i> 18:94-101 (1997)
A52	Landegren, Molecular mechanics of nucleic acid sequence amplification, <i>Trends Genetics</i> 9:199-202 (1993)
A53	Langer et al., Enzymatic synthesis of biotin-labeled polynucleotides: Novel nucleic acid affinity probes, <i>Proc. Natl. Acad. Sci. USA</i> 78(11):6633-6637 (1981)
A54	Lantz et al., Biotechnical use of polymerase chain reaction for microbiological analysis of biological samples. <i>Biotechnol. Annu. Rev.</i> 5:87-130 (2000)
A55	Lesnick et al., Relative Thermodynamic Stability of DNA, RNA, and DNA: RNA Hybrid Duplexes: Relationship with Base Composition and Structure. <i>Biochemistry</i> 34:10807-10815 (1995)
A56	Letsinger et al., Synthesis of Thymidine Oligonucleotides by Phosphite Triester Intermediates. <i>J. Am. Chem. Soc.</i> 9:3655 (1976)
A57	Lockhart et al., Expression monitoring by hybridization to high-density oligonucleotide arrays. <i>Nature Biotechnology</i> 14:1675-1680 (1996)
A58	Matsumoto et al., Primary structure of bacteriophage M2 DNA polymerase: conserved segments within protein-priming DNA polymerases and DNA polymerase I of <i>Escherichia coli</i> . <i>Gene</i> 84:247-255(1989)
A59	Matteucci et al., Synthesis of Deoxyoligonucleotides on a Polymer Support. <i>J. Am. Chem. Soc.</i> 103:3185 (1981)
A60	McGraw et al., Sequence-Dependent Oligonucleotide-Target Duplex Stabilities: Rule from empirical Studies with a Set of Twenty-Mers. <i>Biotechniques</i> 8:674-678 (1990)
A61	Narang et al., Chemical Synthesis of Deoxyoligonucleotides by the Modified Triester Method. <i>Meth. Enzymol.</i> 65:610-620 (1980)
A62	Nielsen et al., Peptide Nucleic Acid (PNA). A DNA Mimic with a Peptide Backbone. <i>Bioconjug. Chem.</i> 5:3-7 (1994)
A63	Nielsen et al., Sequence-Selective Recognition of DNA by Strand Displacement with a Thymine-Substituted Polymide. <i>Science</i> 254:1497-1500 (1991)
A64	Paulson et al., Loss of Heterozygosity Analysis Using Whole Genome Amplification, Cell sorting, and Fluorescence-Based PCR, <i>Genome Res.</i> 9:482-491 (1999)
A65	Paunio et al., Preimplantation diagnosis by whole-genome amplification, PCR amplification, and solid-phase minisequencing of blastomere. <i>Clin. Chem.</i> 42:1382-1390 (1996)
A66	Pease et al., Light-Generated Oligonucleotide Arrays for Rapid DNA Sequence Analysis. <i>Proc. Natl. Acad. Sci. USA</i> , 91(11):5022-5026 (1994)
A67	Pless et al., Solid support synthesis of oligothymidylates using phosphorochloridates and 1-alkylimidazoles. <i>Nucl. Acids Res.</i> 2:773 (1975)
A68	Pruckler et al., Comparison of <i>Legionella pneumophila</i> Isolates by Arbitrarily Primed PCR and Pulsed-Field Gel Electrophoresis: Analysis from Seven Epidemic Investigations. <i>J. Clin. Microbiol.</i> 33:2872-2875 (1995)
A69	Rigler et al., Differences in the Mechanism of Stimulation of T7 DNA Polymerase by Two Binding Modes of <i>Escherichia coli</i> Single-stranded DNA-binding Protein. <i>J. Biol. Chem.</i> 270(15):8910-8919 (1995)
A70	Rychlik et al., Optimization of the Annealing Temperature for DNA Amplification <i>in vitro</i> . <i>Nucl. Acids Res.</i> 18(21):6409-6412 (1990)
A71	Saiki et al., Primer-directed enzymatic amplification of DNA with a thermostable DNA polymerase, <i>Science</i> 239:487-491 (1988)
A72	Sambrook et al., <i>Molecular Cloning: A Laboratory Manual</i> , 2 <sup>nd</sup> Edition (Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY) Chapters 5, 6 (1989)



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APR 01 2002

TECH CENTER 1600/2900

ATTORNEY DOCKET NO. 13172.0012U1

SERIAL NO. 09/977,868

Page 4 of 4

A73	Sanghvi. Chapter 15, Heterocyclic Base Modifications in Nucleic Acids and Their Applications in Antisense Oligonucleotides, <i>Antisense Res. and Appl.</i> p. 273-301 (1993)
A74	Sano et al., Detection of heavy methylation in human repetitive DNA subsets by a monoclonal antibody against 5-methylcytosine. <i>Biochim. Biophys. Acta</i> 951:157-165 (1988)
A75	Schena et al., Quantitative Monitoring of Gene Expression Patterns with a Complementary DNA Microarray. <i>Science</i> 270:487-470 (1995)
A76	Siegel et al., A Novel DNA Helicase from Calf Thymus. <i>J. Biol. Chem.</i> 267(19):13629-13635 (1992)
A77	Skaliter et al., Rolling Circle DNA Replication <i>in vitro</i> by a complex of Herpes Simplex Virus Type 1-encoded Enzymes. <i>Proc. Natl. Acad. Sci. USA</i> 91(22):10665-10669 (1994)
A78	Southern, Detection of specific sequences among DNA fragments separated by gel electrophoresis, <i>J. Mol. Biol.</i> 98:503-517 (1975)
A79	Stimpson et al., Real-Time Detection of DNA Hybridization and Melting on Oligonucleotide Arrays by Using Optical Wave Guides, <i>Proc Natl. Acad. Sci. USA</i> , 92(14):6379-6383 (1995)
A80	Telenius et al., Degenerate Oligonucleotide-Primed PCR: General Amplification of Target DNA by a Single Degenerate Primer. <i>Genomics</i> 13:718-725 (1992)
A81	Tenover et al., Comparison of Traditional and Molecular Methods of Typing Isolates of <i>Staphylococcus aureus</i> . <i>J. Clin. Microbiol.</i> 32:407-415 (1994)
A82	Tsurumi et al., Functional Interaction between Epstein-Barr Virus DNA Polymerase Catalytic Subunit and Its Accessory Subunit In Vitro. <i>J. Virol.</i> 67(12):7648-7653 (1993)
A83	Tyagi et al., Molecular Beacons: Probes that Fluoresce Upon Hybridization. <i>Nat. Biotech.</i> , 14(3):303-308 (1996)
A84	Villemain et al., The N-Terminal B-Domain of T4 Gene 32 Protein Modulates the Lifetime of Cooperatively Bound Gp32-ss Nucleic Acid Complexes. <i>Biochemistry</i> 35:14395-14404 (1996)
A85	Walker et al., Detection of <i>Mycobacterium tuberculosis</i> DNA with thermophilic strand displacement amplification and fluorescence polarization. <i>Clinical Chemistry</i> 42(10):1604-1608 (1996)
A86	Wansick et al., Fluorescent Labeling of Nascent RNA Reveals Transcription by RNA Polymerase II in Domains Scattered Throughout the Nucleus. <i>J. of Cell Biol.</i> 122(2):283-293 (1993)
A87	Wells et al., Detailed chromosomal and molecular genetic analysis of single cells by whole genome amplification and comparative genomic hybridization, <i>Nucl. Acids Res.</i> 27:1214-1218 (1999)
A88	Wells et al., Comprehensive chromosomal analysis of human preimplantation embryos using whole genome amplification and single cell comparative genomic hybridization, <i>Mol. Hum. Reprod.</i> 6:1055-1062 (2000)
A89	Yu et al., Cyanine dye dUTP analogs for enzymatic labeling of DNA probes, <i>Nucl. Acids Res.</i> , 22(15):3226-3232 (1994)
A90	Zhang et al., Whole genome amplification from a single cell: implications for genetic analysis, <i>Proc Natl Acad Sci USA</i> 89:5847-5851 (1992)
A91	Zhu et al., Purification and characterization of PRD1 DNA polymerase. <i>Biochim. Biophys. Acta</i> 1219:267-276 (1994)
A92	Zijderveld et al., Helix-Destabilizing Properties of the Adenovirus DNA-Binding Protein. <i>J. Virol.</i> 68(2):1158-1164 (1994)

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